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Attorney Docket No.: PATENT  
MLNR-08101

#9/a  
PRE  
J.D.  
7-18-02

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: ) Group Art Unit: 2682  
Gwilym Luff et al. ) Examiner:  
Serial No.: 09/721,528 )  
Filed: November 22, 2000 ) PRELIMINARY AMENDMENT  
For: **NOVEL TOPOLOGY FOR A** ) 162 North Wolfe Road  
**SINGLE ENDED INPUT DUAL** ) Sunnyvale, CA 94086  
**BALANCED MIXER** ) (408) 530-9700

Assistant Commissioner for Patents  
Washington, D.C. 20231

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Technology Center 2000

Sir:

Please amend the subject application by amending the following claims:

AMENDMENTS

Clean version of claims, incorporating current amendments.

(AMENDED)

- 1 6. A mixer circuit for generating an IF output responsive to an RF input and a LO drive  
2 source, comprising:  
3 a mixer core having a doubly balanced mixer including a first differentially coupled npn  
4 transistor pair and a second differentially coupled npn transistor pair, the mixer core coupled to  
5 receive a LO drive signal, the LO drive signal having a plurality of harmonics;  
6 a low noise RF input circuit coupled to the mixer core through a folded cascode circuit,  
7 the low noise RF input circuit coupled to receive an RF input signal, wherein the folded cascode  
8 circuit further isolates the RF input circuit from the LO drive signal and the plurality of  
9 harmonics.

(AMENDED)

- 1 7. A mixer as in Claim 6 wherein the folded cascode circuit comprises:  
2 a first cascode transistor having an emitter terminal coupled to a second terminal of a  
3 first capacitor and to a first terminal of a third inductor, a collector terminal coupled to the  
4 second differentially coupled npn transistor pair and a base terminal,



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For: **NOVEL TOPOLOGY FOR A  
SINGLE ENDED INPUT DUAL  
BALANCED MIXER**

) Group Art Unit: 2682  
) Examiner:  
)  
) **TRANSMITTAL LETTER**  
)  
) 162 North Wolfe Road  
) Sunnyvale, California 94086  
) (408) 530-9700

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**JUN 27 2002**

**Technology Center 2600**

Assistant Commissioner of Patents  
Washington, D.C. 20231

Sir:

Enclosed please find a Preliminary Amendment for filing with the U.S. Patent and Trademark Office.

The Commissioner is authorized to charge any additional fee or credit any overpayment to our Deposit Account No. 08-1275. **An originally executed duplicate of this transmittal is enclosed for this purpose.**

Respectfully submitted,

HAVERSTOCK & OWENS LLP

Dated: June 18/2002

By: Thomas B. Haverstock

Thomas B. Haverstock  
Reg. No.: 32,571

Attorneys for Applicants

CERTIFICATE OF MAILING (37 CFR § 1.8(a))  
I hereby certify that this paper (along with any referred to as being attached or enclosed) is being deposited with the U.S. Postal Service on the date shown below with sufficient postage as first class mail in an envelope addressed to the: Assistant Commissioner for Patents, Washington D.C. 20231

HAVERSTOCK & OWENS LLP.

Date: June 17, 2002 By: Thomas B. Haverstock